6.5.2.bt SpecialHandling ***NEW***

The presence of the SpecialHandling (SHH) parameter indicates that a call requires special handling (e.g., an emergency call, requiring reconnect upon abnormal disconnect).

Field	Value	Type	Reference	Notes
Identifier	SpecialHandling IMPLICIT OCTET STRING	M	6.5.1.2	
Length	variable octets	M	6.5.1.1	
Contents				

H	G	F	E	D	C	B	A	octet	Notes
Reserved							ES	1	a
• • •								*n*	b

Figure xx SpecialHandling parameter

Notes:

a. Reserved bits shall be ignored on receipt and set to zero on sending.

b. Ignore extra octets, if received. Send only defined (or significant) octets.

Table xx SpecialHandling value

ES (octet 1, bit A)

Bits H G F E D C B A	Value	Meaning
0	0	Emergency Service Procedures should not be used.
1	1	Emergency Service procedures, including automatic reconnect upon loss of radio contact, should be used.

WIRELESS ENHANCED EMERGENCY SERVICES:
ANSI J-STD-024 STAGE 3 MODIFICATIONS

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FOREWORD

This Foreword is not part of this Interim Standard.

This is one of a series of recommendations titled

"WIRELESS ENHANCED EMERGENCY SERVICES"

which provides a solution for the limited capabilities of Wireless Enhanced Emergency Services. These capabilities include:

- provision of base station, cell site or sector identification information
- subscriber identification
- callback
- reconnect

The recommendations included in this series are:

- J-STD-034.1, Wireless Enhanced Emergency Services: Functional Overview
- J-STD-034.2, Wireless Enhanced Emergency Services: PSAP Perspective
- J-STD-034.3, Wireless Enhanced Emergency Services: Emergency Services Stage 2
- J-STD-034.4, Wireless Enhanced Emergency Services: *TIA/EIA-41* Intersystem Handoff Modifications
- J-STD-034.5, Wireless Enhanced Emergency Services: *TIA/EIA-41* Automatic Roaming Modifications
- J-STD-034.6, Wireless Enhanced Emergency Services: *ANSI J-STD-023* Stage 2 Modifications
- J-STD-034.7, Wireless Enhanced Emergency Services: *TIA/EIA/IS-93* Modifications
- J-STD-034.8, Wireless Enhanced Emergency Services: *TIA/EIA-41* Stage 3 Modifications
- J-STD-034.9, Wireless Enhanced Emergency Services: *ANSI J-STD-024* Modifications

REVISION HISTORY

Revision	Date	Remarks
0	October 1997	Initial Publication

NOTE

The unique numbering system assigned to these documents is intended to reflect their hierarchical structure.

1. INTRODUCTION

1.1 OBJECTIVE

This is one of a series of recommendations titled

"WIRELESS ENHANCED EMERGENCY SERVICES"

which provides a solution for the limited capabilities of Wireless Enhanced Emergency Services. These capabilities include:

- provision of base station, cell site or sector identification information
- subscriber identification
- callback
- reconnect

1.2 SCOPE

This document provides a solution for modifications to *ANSI J-STD-024* Stage 3 to support Wireless Enhanced Emergency Services.

1.3 ORGANIZATION

This document is organized by the following sections:

- Section 1, titled "Introduction," provides introductory information for this Interim Standard.
- Section 2, titled "References," lists the normative and informative references for this Interim Standard.
- Section 3, titled "Terminology," lists the definitions, symbols, abbreviations, and other documentation conventions used in this Interim Standard.
- Section 4, titled "*ANSI J-STD-024* Stage 3 Modifications," defines the modifications to the intersystem messaging parameters in *ANSI J-STD-024* necessary to support Wireless Enhanced Emergency Services.
- Section 5, titled "Annex A: *J-STD-024* Volume 5 Annex A," defines the modifications necessary in Annex A to accommodate the new position tracking procedures.

2. REFERENCES

The *ANSI J-STD-023* recommendations are:

- ANSI J-STD-023, *PCN to PCN Intersystem Operations based on PCS1900 Standard, approved for publication.*

The *ANSI J-STD-024* recommendations are:

- ANSI J-STD-024, *Personal Communication Services, SS7 based A-interface Standard, approved for publication.*

3. TERMINOLOGY

3.1 DEFINITIONS

Emergency Services Call

A call requiring connection to a PSAP. The digits 9-1-1 require this treatment in the United States.

3.2 SYMBOLS AND ABBREVIATIONS

M	Mandatory
O	Optional
PCS	Personal Communications System
PCSC	PCS Switching Center
PS	Personal Station

4. *ANSI J-STD-024* STAGE 3 MODIFICATIONS

3.1 RSMAP Procedures

This section describes the procedures used in the RS Management Application Part. These are the main procedures:

- * denotes to dedicated procedures, which are accomplished by using connection oriented services of SCCP.
- # denotes to dedicated procedures, which are accomplished by using connectionless services of SCCP.

* Position Tracking	Figure 3.18

3.1.21 Position Tracking Procedure ***NEW***

The purpose of the position tracking procedure is to retrieve from the Serving PCSC the location number associated to the cell where an Emergency Services Call is originated following an inter-PCSC handoff. The procedure relates to a single personal station.

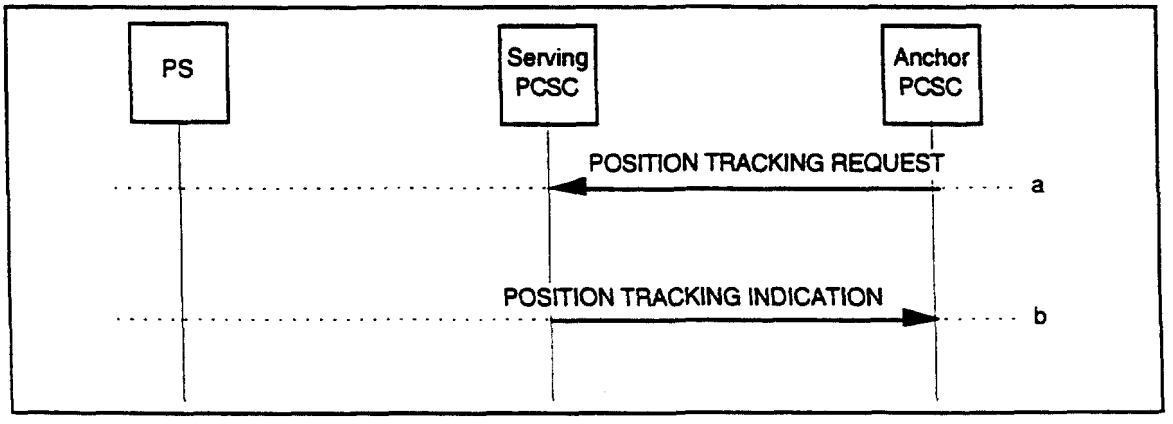

Figure 3.18 Position Tracking Indication

3.1.21.1 Successful Operation

a. The Anchor PCSC retrieves from the Serving PCSC the location number associated to the cell where the parallel transaction has been established and determines the manner in which the Serving PCSC transfers this information by sending a POSITION TRACKING REQUEST message to the Serving PCSC. This message shall contain an Indication Method Information Element which can be set to value: 2. (One single position tracking information expected). The Serving PCSC shall return a single POSITION TRACKING INDICATION message with some position tracking information immediately.

b. The transfer of position tracking information related to a given personal station from the Serving PCSC to the Anchor PCSC occurs when the Indication Method Element is set to the value: 2. The Serving PCSC sends POSITION TRACKING INDICATION messages to the PCSC under the conditions explained above. The POSITION TRACKING INDICATION message shall contain the Indication Method ID with the same value as was requested by the Anchor PCSC.

3.1.21.2 Abnormal Conditions

If the Serving PCSC cannot provide the information requested by the Anchor PCSC or cannot interpret the request issued by the Anchor PCSC, the Serving PCSC shall return a POSITION TRACKING INDICATION message with a cause information element set to an appropriate value (e.g., "invalid message contents").

3.2.1.50 Position Tracking Request ***NEW***

This message is sent from the Anchor PCSC to the Serving PCSC and requests location number information.

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message type	3.2.2.1	PCSC-PCSC	M	1
Periodicity	3.2.2.12	PCSC-PCSC	M*	2
Position Tracking Indication method	3.2.2.29	PCSC-PCSC	M	2
Position information type (requested)	3.2.2.53	PCSC-PCSC	O	2

* This element shall always be encoded as if the information element is not used (i.e., "0000 0000").

3.2.1.51 Position Tracking Indication ***NEW***

This message is sent from the Serving PCSC to the Anchor PCSC in response to a position tracking request message.

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message type	3.2.2.1	PCSC-PCSC	M	1
Position Tracking Indication method	3.2.2.29	PCSC-PCSC	M	2
Cause	3.2.2.5	PCSC-PCSC	O	3-4
Position information type (reported)	3.2.2.53	PCSC-PCSC	O	2
Location Number	3.2.2.52	PCSC-PCSC	O*+	3-10

*+ This information element is applicable only on the E-interface.

Typical Cause values: as for the handover failure message.

3.2.2 Signaling Element Coding

ECI Coding	Element Name	Reference
0001 1100	(Resource/Position Tracking) iIndication method	3.2.2.29
...		
~~0100 0001~~	~~Reserved~~	~~*~~
0100 0001	Location Number	3.2.2.52
0100 0010	Position Information type	3.2.2.53
...		
0100 1111	Reserved	*

Bit 8 is reserved for future extension of the code set. All unassigned codes are spare.

8 7 6 5 4 3 2 1	
0 0 0 0 0 0 0 0	RESERVED
GENERAL MESSAGES	
0 0 1 1 1 0 0 0	POSITION TRACKING REQUEST
0 0 1 1 1 0 0 1	POSITION TRACKING INDICATION

3.2.2.12 Periodicity ***NEW***

This element defines the periodicity of a particular procedure. It is fixed length, 2 octets.
The coding is as follows:

8	7	6	5	4	3	2	1	
Element Identifier								octet 1
Periodicity								octet 2

When the Position Tracking Indication IE is set to "method 2. of Volume 5 section 3.1.21.1" then the "Periodicity" IE shall be ignored.

3.2.2.29 (Resource/Position Tracking) Indication Method

This element defines the way the RS shall transfer the resource/position tracking information related to a cell/personal station to the PCSC. The coding is as follows:

8	7	6	5	4	3	2	1	
Element Identifier								octet 1
Spare				Resource/position tracking indication method				octet 2

The coding of the Position Tracking Indication parameter is:
0001 the method 2. of Volume 5 section 3.1.21.1 is selected.
All other values are reserved.

3.2.2.52 Location Number ***NEW***

The Location Number is coded as a sequence of BCD digits, compressed two into each octet. This is a variable length element, and includes a length indicator.
The element coding is:

8	7	6	5	4	3	2	1	
Element Identifier								octet 1
Length								octet 2
ext	Nature of Address indicator			Numbering Plan Indicator				octet 3
Location Number digit 2				Location Number digit 1				octet 4
...				...				...
Filler (if necessary)				Location Number digit *n*				octet *m*

Octet 3, Bit 8: Reserved for extension.
A coding of 0 indicates no extension.

Nature of Address Indicator (octet 3, bits 5 to 7):
The Nature of Address indicator is coded as the "Nature of Address indicator," bits 5 to 7 of the "AddressString" parameter defined in *J-STD-023, section III.*

Numbering Plan indicator (octet 3, bits 1 to 4):
The Numbering Plan indicator is coded as the "Numbering Plan indicator," bits 1 to 4 of the "AddressString" parameter defined in *J-STD-023, section III*

Location Number digits (octet 4-*m*.):
The location number digits are coded using BCD coding. If the number of location number digits is odd, then bits 5 to 8 of the last octet shall be filled with an end mark coded as "1111" (here called a Filler). The location number is coded as defined in *J-STD-023, section I*, with the most significant digit as Location Number digit 1 and the least significant digit as Location Number digit '*n*'.

3.2.2.53 Position Information Type ***NEW***

This element contains the position information type requested/reported during position tracking procedure performed on the PCSC-PCSC interface.
It is coded as follows:

8	7	6	5	4	3	2	1	
Element Identifier								octet 1
Position information type								octet 2

The position information type octet is a bit map indicating the type of information that is requested by the sending entity from the receiving entity or that is reported by the sending entity to the receiving entity. From this bit map the receiving entity may report on one or several types of position information at a time.
Bit No.

1 Location Number
2 spare
3 spare
4 spare

5	spare
6	spare
7	spare
8	spare

A bit position encoded as 1 indicates that the Serving PCSC shall report the information represented by that bit position. A bit encoded as 0 indicates that the Serivng PCSC may not report the information represented by that bit position. A position information type octet containing all bits encoded as 0 shall not be used.

5. ANNEX A: J-STD-024 VOLUME 5 A ANNEX

(This is a modified section)

A.5 Use Of The RSAP On The E-Interface

DTAP is used on the E-interface for the transfer of messages between the PCSC-A and the PS. The dedicated RSMAP procedures (Volume 5 section 3.1) used on the E-interface to some extent are:

- Position Tracking procedure

(This is a new section)

A.5.12 Position Tracking procedure

For the Position Tracking procedure (Volume 5 section 3.1.21), the involved PCSCs act according to the following:

- the PCSC-A acts as the PCSC
- the PCSC-I acts as the RS

(This is a modified section)

A.6 RSMAP Messages Transferred On The E-Interface

The following RSMAP messages, defined in Volume 5 section 3.2.1, are transferred on the E-interface:

POSITION TRACKING REQUEST	(PCSC-A -> PCSC-I)
POSITION TRACKING INDICATION	(PCSC-I -> PCSC-A)